

In the Claims:

1. – 52. (Cancelled)

53. (Currently Amended) A method of genetically modifying a multicellular eukaryotic diploid parasite, the method comprising ~~the step of directly transforming a multicellular-differentiated developmental stage of the~~ multicellular eukaryotic diploid parasite using a ~~group~~-transformation method selected from the group consisting of electroporation, chemical transformation, lipofection and biolistic bombardment, so as to obtain a genetically modified multicellular eukaryotic diploid parasite.

54. (Currently Amended) The method of claim 53, wherein the multicellular eukaryotic diploid parasite is a worm.

55. (Previously added) The method of claim 54, wherein said worm is a flat worm.

56. (Previously added) The method of claim 55, wherein said flat worm is a trematode.

57. (Previously added) The method of claim 56, wherein said trematode is a schistosome.

58. (Previously added) The method of claim 57, wherein said developmental stage is miracidia, either within ova or after hatching.

59. (Currently Amended) The method of claim 53, wherein the multicellular eukaryotic diploid parasite is infective to human or animal.

60. (Currently Amended) The method of claim 53, wherein the multicellular eukaryotic diploid parasite is infective to human.

61. (Previously added) The method of claim 57, wherein said schistosome is infective to human.

62. (Previously added) The method of claim 57, wherein said schistosome is selected from the group consisting of *Schistosoma mansoni*, *Schistosoma haematobium*, *Schistosoma japonicum*, *Schistosoma bovis*, *Schistosoma mattheei*, *Schistosoma rhodhaini*, *Schistosoma magrebowiei*, *Schistosoma intercalatum*, *Schistosoma curasoni*, *Schistosoma mekongi*, *Schistosoma spindale*, *Schistosoma leipere*, *Schistosoma turkestanicum*, *Schistosoma inidicum*, *Schistosoma nasalis* and *Schistosoma suis*.

63. (Currently Amended) The method of claim 53, wherein the multicellular eukaryotic diploid parasite is sensitive to a known drug.

64. (Cancelled).

65. (Currently Amended) The method of claim 53, wherein the eukaryotic diploid parasite includes a transgene integrated in the genome of said parasite.~~is integrated in the parasite genome.~~

66. (Currently Amended) The method of claim ~~53~~65, wherein said transgene is integrated in a selected ~~genomic locus of said genome in the parasite genome.~~

67. (Currently Amended) The method of claim 66, wherein said selected ~~genomic locus~~ is a repetitive sequence.

68. (Currently Amended) The method of claim 66, wherein said selected ~~genomic~~ locus is a unique sequence.

69. (Currently Amended) The method of claim 53, wherein the multicellular eukaryotic diploid parasite has distinguishable sexes.